

REMARKS

Claims 1-38 and 82-86 were rejected in an Office Action dated July 3, 2008. Claim 1 has been amended; no new matter is deemed added by this amendment. Support for the amendments may be found in the "Detailed Description of the Invention." Provided herewith is the Declaration of Edward Gunzel, inventor to the instant application, and Appendices A and B. Applicants respectfully request reconsideration of the present application in view of the following remarks.

Objection

The specification is objected to as to not providing antecedent basis for the limitation that the tape has a narrow width just slightly greater than the cable width, though the drawing provides sufficient support that the limitation is not new matter. Applicants would like to direct the Examiner's attention to page 7, lines 29-32, which provide proper support for this limitation, which should render moot this objection.

Claims

Claim 1 has been amended. Support for this amendment may be found throughout the detailed specification and Examples, for example at page 8 starting at line 29, page 10 starting at line 23, and Figure 4.

Rejections under 35 USC §103

Unpatentable over Rock et al. in view of Caird et al.

Claims 1-8, 16-32, and 82-86 were rejected under 35 USC §103(a) as being unpatentable over US Patent Publication 2001/0006173 to Rock et al. ("Rock") in view of US Patent 3,768,156 to Caird et al ("Caird"). Applicants respectfully traverse the rejection for the following reasons.

Applicants respectfully assert that no prima facie case of obviousness has been established for the reasons set for in Applicants' response dated April 29, 2008, where the combination of references does not disclose or suggest all elements of the independent claims (1, 33, and 82). Specifically, the references do not disclose or suggest a

fabric body comprising at least two joined textile panels wherein a cable extends across a portion of the panels and is covered by a tape comprising an adhesive which secures the cable to the panels. It was asserted in the Office Action that the barrier of Rock corresponds to the tape of Applicants' instant application. In Applicants' response dated April 29, 2008, Applicants' asserted that one skilled in the art would understand that the laminate barrier material suggested by Rock and the tape as described by the instant applications are not the same, therefore not all claim elements have been established.

Moreover, attached herewith is a Declaration by inventor Edward Gunzel summarizing the results of testing wherein sample fabrics comprising various conductive yarns and cables were laminated as suggested by Rock, and compared to sample fabrics wherein the conductive yarns and cables were attached using tape, as taught by the instant application. The inventor asserted that the results of the testing clearly established that all sample fabrics prepared by laminating barrier material had significant deterioration either in terms of delamination, deterioration of electrical performance, or both. Thus, it would be clear to one skilled in the art that the laminated barrier as suggested by Rock does not correspond to the tape of the instant application. Moreover, it has been suggested by the office that it would be apparent to one skilled in the art to further modify the laminate barrier of Rock by using a narrower barrier similar in dimension to a tape motivated by the desire to provide garments for use in hot weather (Office Action, page 4). The data provided in the Declaration shows that sample fabrics provided with narrower laminate barrier material strips (Sample 4) also provided poor performance compared to the taped samples.

The differences between the barrier layer of Rock and the claimed element of a tape comprising an adhesive as recited in Applicants' claims, would be clear to a skilled artisan. Applicants assert that the term 'tape' is clear to one skilled in the art, and is further made clear by reference to the instant specification, for example, the figures (e.g. Figs. 1, 4, and 6), examples which describe tapes and processes for applying tapes through garment taping processes, and generally in the detailed description. Where Caird does not disclose or suggest a barrier or a tape, Caird does not remedy this deficiency, and the claimed invention is

not obvious where the proposed combination does not disclose or suggest each element of Applicants claims.

Moreover, Applicants respectfully assert that the combination of references does not disclose or suggest the newly amended Claim 1 and the claims dependent thereon, where neither reference is directed to a fabric body comprising more than one electronic module interconnected by a cable therebetween, wherein the cable extends over the two joined panels, and the cable is covered by a tape comprising an adhesive that adheres to the upper cable surface and onto the textile panels, secured between the tape and the panels. Both Rock and Caird are directed to electrically conductive resistance heating elements for insertion into textile articles and connection to a battery. In both references, both ends of each resistive element is attached to the battery. There is no disclosure or suggestion of a fabric body comprising more than one joined panel wherein the fabric body is adapted to connect to more than one electric module by cable ends. Neither Rock nor Caird are directed to the problem that Applicants' application attempts to solve: transmitting data or power from one portion of the fabric body to another, over a seam, in a manner that maintains durable electrical performance for data and power transmission. The data provided in the declaration demonstrates that the method taught by Rock in view of Caird would be unsuitable for fabric bodies requiring durable electrical performance.

Unpatentable over Rock et al. in view of Caird et al. further in view of Cordia et al ("Cordia").

Claims 9-15 were rejected under 35 USC §103(a) as being unpatentable over Rock et al. in view of Caird et al. as applied to claims above, and further in view of US Patent 5,236,765 to Cordia et al. Applicants traverse the rejection and assert that Cordia does not teach how to bond a heating element to fabric layers without embedding them within the fabric, or between multiple layers of fabric (see Figs.1-5). Moreover, there is no disclosure or suggestion of using an adhesive for a barrier application such as Rock. Col. 9, lines 4-16, teaches that the cover may have a coating of an adhesive. This adhesive layer is described as useful for heat sealing the cover to an object, where the heat from the heating element activates the adhesive or sealant to cause the cover to shrink around the object. There is simply no disclosure or

suggestion of the use of an adhesive with a tape/barrier for adhering the tape to the surface of a cable and adhering the cable to a fabric, securing the cable between the tape and the fabric to provide an adhered barrier that the Examiner asserts Rock teaches.

Moreover, there is no motivation to combine Rock with Cordia where to do so would render Rock unfit for its intended purpose. The recoverable fabric of Cordia has an electrical heating element that functions to heat the fabric causing it to shrink and conform to a shaped object. At several places, it is stated that where a cover has an adhesive layer, the cover may be wrapped in multiply wrapped layers around an object such as a pipe, and when heat-activated, the adhesive melts and flows to bond the multiply wrapped cover layers together (see col. 14, lines 1-44.) Where Rock is directed to a resistant heating fabric, any barrier layer having an adhesive which is flowable or meltable at the operation temperature of the heating element, would compromise the barrier/cable/fabric interface, and not provide the barrier properties for which it is intended. Thus, one skilled in the art at the time of the invention would not have been motivated to modify Rock in view of Cordia.

Unpatentable over Rock et al. in view of Caird et al. further in view of Parker

Claims 33-38 were rejected under 35 USC §103(a) as being unpatentable over Rock et al. in view of Caird et al. as applied to claims above, and further in view of US Patent 5,658,164 to Parker.

Applicants assert that one skilled in the art would have no motivation to combine Rock with Caird and Parker, where Parker is non-analogous art. The proper test for analogous art is (1) whether the art is from the same field of endeavor and (2) if the reference is not in the same field of endeavor, whether the reference is reasonably pertinent to the particular problem with which the inventor is involved.

In the present case, where Rock is directed to heating/warming fabric composites for use in apparel, and Parker is directed to a 360 degree conductive shielded flexible flat electrical cable, the references are clearly from separate fields of endeavor. Also, Parker is not pertinent to the particular problem that Rock, Caird or the instant invention address. Rock is directed to forming electrical resistance

heating/warming composites for insertion into fabric articles of apparel; in contrast, Parker is directed the problem of how to provide a shielded, flat flexible jumper cable that can be easily connected to any appropriate mating connector. Thus, when faced with the problem that Rock is trying to solve, one skilled in the art would not have thought to look to Parker with a reasonable expectation of addressing the problems faced by either Applicants or Rock.

Separate from the issue of non-analogous art, the Examiner has asserted that a skilled artisan would have been motivated to employ a micro ribbon cable because Parker teaches such cables are durable. Applicants assert that this rationale is insufficient to show obviousness. Parker does not disclose or suggest use in apparel applications, and more importantly, a shielded cable of the type described by Parker would render Rock unfit for the intended purpose of an electric resistance heating/warming element. No evidence has been presented by the Examiner as to how and in what manner the teachings of Parker would be applied to Rock in view of Caird to arrive at the claimed invention.

Moreover, the data presented in the Declaration of Edward Gunzel shows that micro ribbon cable attached to fabric bodies by lamination showed significant delamination after 2 hours, compared to taped samples which remained intact beyond 5 hours. Moreover, in the instant specification at Table 2, page 21, Examples 2 and 3 made with microribbon cables showed good wash durability for up to 22 hours and 16 hours of testing, respectively. Removal of the rejection is therefore respectfully requested.

Conclusion

For the foregoing reasons, the present invention as defined by the claims is neither taught nor suggested by any of the references of record. Accordingly, Applicants respectfully submit that these claims are

now in form for allowance. If further questions remain, applicants request that the Examiner telephone Applicants' undersigned representative before issuing a further Office Action.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Dianne Burkhard", written in dark ink.

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